

completed at the same laboratory September 6, and differs from the preceding principally in the proportions and the system of internal bracing. It is about 2 feet deep, 8 feet broad, and 8 feet long. The great manhole kite, or the Jumbo, was completed October 18, 1898, at the Beim Breagh laboratory. It is about 16½ feet long, 5½ deep, and 11 broad. The front and rear cells are rectangles 5½ by 5½ by 11 feet, and they are separated by a blank space of the same dimensions.

Before experimenting with these Professor Bell and his assistants had devised a large number of peculiar forms, which, although they may not be of much value to the meteorologist as a means of raising meteorographs to explore the upper air, yet are of great interest to the student of hydrodynamics as offering many interesting problems for his study. Some of these new forms Professor Bell denominates kites with radial wings. Others have, instead of wings or cells, various conical appendages or members, but all have the common characteristic that two similar members are separated by a rod whose axis coincides with the axis of the front and rear member, so that in general they may all be denominated spool kites; these fly by a cord attached at some point in the axis of the spool between the kite frames. All these forms were devised and used before June 24, 1898, and most of them are shown in the sketches given on Chart No. XI, where they are numbered as follows:

- No. 1. The two radial winged kite.
- No. 2. The three radial winged kite.
- No. 3. The giant three radial winged kite.
- No. 4. The four radial winged kite.
- No. 5. The five radial winged kite.
- No. 6. The two winged kite with conical tail.
- No. 7. The two winged kite with revolving fan tail.
- No. 8. Conical spool kite.
- No. 9. Conical spool kite.
- No. 10. Conical spool kite.
- No. 11. Conical spool kite.
- No. 12. Conical spool kite.
- No. 13. Conical spool kite.
- No. 14. Conical spool kite.
- No. 15. Semiconical spool kite.
- No. 16. Semiconical spool kite.
- No. 17. Double cone kite.

Of all these forms Professor Bell found the kites with three radial wings, Nos. 2 and 3, most interesting. The reader will notice that in all these kites the axis of the spool has an extra length, so that the two members may be set at different distances apart. The string by which the kite is flown is also adjustable at different points, so as to determine the best angle of flight. Photographs were taken of the four-winged and the five-winged kites when flying in the air, the string being attached to the top of a tall flagstaff; the appearance of the kites shows that the angles of inclination were not favorable to the attainment of great heights.

Perhaps the most remarkable kites were made by giving a twist to each of the three or four individual radial arms at each end of a spool, and allowing each set to revolve freely about the axis of the spool independently of the other set. This freedom to revolve seemed to make no difference in the flying, but decidedly increased the steadiness of the kite. The pull on the string was not sensibly diminished when the wings revolved, as compared with that when they were stationary. The angle of elevation of the kite string was not stated by Professor Bell.

Will it not be possible to add to the ordinary Hargrave kite a small fan driven by the wind to furnish motor power for use in connection with the self-registering meteorological apparatus? It would seem that the whirling fan does not add sensibly to the pull on the wire at the reel. In fact, it

is well known that this pull depends on the action of the wind on the long line of wire, even more than on the wind action at the kite itself.

NEWSPAPER FAKES.

It is frequently the duty of the Editor to enter into correspondence with those who contribute to the daily press circumstantial accounts of remarkable phenomena, such as ball lightning, falling meteors, tidal waves, earthquakes, hailstorms, showers of fishes, frogs, pollen, and numerous other quasi meteorological phenomena.

It would surprise the uninitiated to discover how many of these newspaper items are misleading exaggerations, and an intelligent man can but wonder how it is that so many sensational accounts of ordinary meteorological phenomena come to be published. Apparently the fault is not always with the editors of the newspapers, but lies with the news agents who have authority to write or telegraph to headquarters whatever they think will interest the readers of the paper or benefit the town that they represent. Thus, on May 2, a press dispatch from Vincennes, Ind., flooded the whole country with the announcement that—

Councilman ——— and Contractor ——— picked up the pieces of a snow-white flinty meteor whose external surface was of orange or yellow color. The meteors, for there were two of them, had struck some large stones in their fall and broken to pieces.

At the request of the Editor the voluntary observer of the United States Weather Bureau at Vincennes kindly obtained a piece of the stone and some further description of the event. The stone proves to be merely a fragment of a quartz boulder that had been discolored on the outside by red clay soil. If it fell as described, it must have been thrown from a distance by blasting or some other method. A fairly intelligent news gatherer or press agent might easily have seen that it had none of the characteristics of a meteoric stone and might have saved the people the bother and expense of telegraphing, printing, and reading his interesting little item. Our public schools generally teach enough science to enable a news gatherer to avoid being duped. There is no excuse for one who wilfully or ignorantly misleads his readers. If one perpetrates a fake or hoax in these small matters how shall we know when to trust him in the more important items of political and financial history?

While the Editor of the MONTHLY WEATHER REVIEW desires to secure interesting items, yet he does not wish anything fictitious or misleading. The voluntary and regular observers will confer a favor if, in sending him important newspaper items, they also add such criticisms of their own as will show the amount of credence to be given to the articles.

UNIVERSITIES AND METEOROLOGY.

The hearty interest in the progress of science that is felt in every branch of the Department of Agriculture is well set forth in an article by the Chief of the Weather Bureau, published in the Ohio State Journal for May 7. Among other things, Professor Moore said:

Meteorology is so interwoven with other natural sciences that we must look to the technically trained men of the future to explain many things of which we are now ignorant. This science presents to the student unlimited opportunities for theoretical investigations. At the same time it contains problems that engage the serious attention of practical men. A thoroughly equipped investigator should be, at least, a physicist, an astronomer, and a mathematician. As a rule, only graduates of universities and scientific schools have this educational foundation. This establishes a close relationship between educational institutions and the scientific departments of the Government. One is the training ground, the other an enlarged field of operations. * * *